Case Report

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Transmural Migration of Gossypiboma into Stomach:A Case Report

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A B S T R A C T

Gossypiboma is the term given to retained abdominal sponges. The statistics of its incidence is more likely to be underestimated because most of the time such cases are not reported due to the fear of medicolegal complications. Such cases cause serious morbidity and even mortality if not diagnosed. We present a case report of a rare phenomena that involved transmural migration of gossypiboma into stomach with a brief review of literature. Gossypiboma was left in abdominal cavity during open cholecystectomy and later was removed on exploratory laparotomy from the stomach. Patient recovered well with no morbidity.

Key words: Gossypiboma, Open cholecystectomy, Transmural migration

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Introduction

Foreign body, most commonly a surgical sponge retained in the abdominal cavity following surgery, is a serious but avoidable complication.[1] Articles which are left unknowingly inside a patient during a surgery are named as retained foreign bodies (RFB). These items can be needles, blades, surgical instruments and above all surgical sponges.[2,3] Gossypiboma is the term given to retained abdominal sponges. It is derived from the Latin word "gossypium" which means cotton and the Swahili word "boma," which is referred to a place of concealment.[4] The incidence of retained foreign bodies is an embarrassing but easily avertable complication of surgery. Wilson in 1884 reported the first case of gossypiboma and reported in 1 in 100 - 5,000 surgical interventions and 1 in 1,000 - 1,500 intra-abdominal operations.[4,5] Its occurrence is 0.01 to 0.001%, among which surgical sponge is found in 80% of the cases.[6] The incidence is more likely to be underestimated because most of the time such cases are not reported due to serious medico legal problems that can arise between the patient and the surgeon. It has therefore adverse consequences for the surgeon and the hospital staff in the form of negative media coverage, humiliation, mental agony, loss of reputation, and litigation.[4]

Transmigration is rare event associated with retained abdominal sponge.[6] In this case report, a brief review of literature about transmigration of gossypiboma into stomach after open cholecystectomy is discussed.

Case Report

A 37 years old female presented in emergency department of PIMS with complaints of intermittent abdominal pain, relative constipation and abdominal distension for last seven months. She had history of open cholecystectomy at a private hospital eight months back. Since then she had these symptoms that used to settle with conservative management. Patient was hepatitis C positive for which she was treated. She visited multiple times in gastroenterology department for these complaints, where her workup was done. CT scan abdomen was done that reported a metallic density in stomach, enlarged mesenteric lymph nodes, hepatosplenomegaly, mild peritoneal ascites concerning for tuberculosis or lymphoproliferative disease (Figure 1). Later endoscopy was planned and a foreign body (abdominal sponge/ gauze) extending from stomach up to duodenum was noted. Another foreign body was impacted at distal part of the gastric body along the greater curvature with significant surrounding area of ulceration.

Department of General Surgery was called for further management. On examination, patient was vitally stable. Abdominal examination showed scar mark of previous incision with mild distension and tenderness in epigastrium. Rest of the examination was unremarkable. X-ray abdomen showed a radio-opaque coil like structure (Figure II).

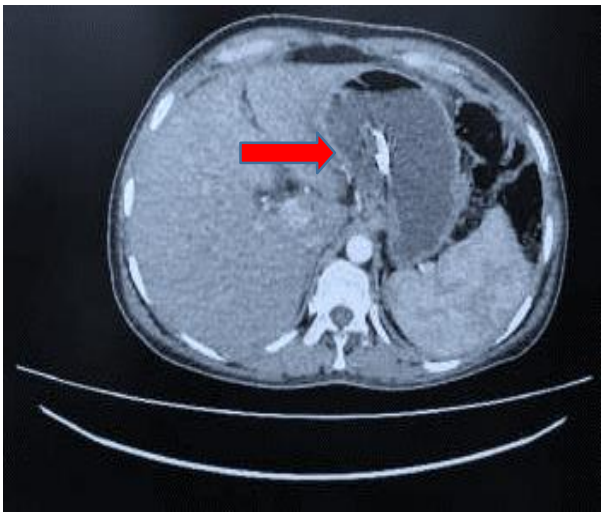

Figure I. CT scan showing a metallic density in stomach (Red arrow)

Figure II: X-ray Abdomen showing a radio-opaque coil.

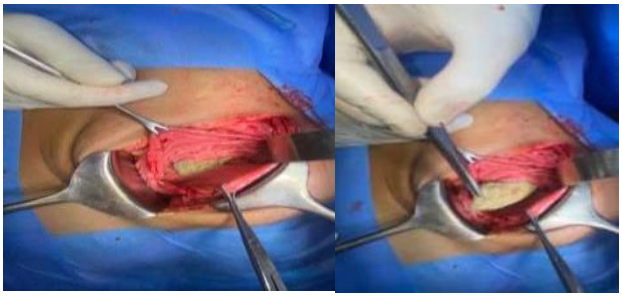

Figure III (a, b): Per-operative view of gastrostomy showing sponge in stomach.

Figure IV: Retrieved sponge

Exploratory laparotomy was planned and gastrostomy was performed. On exploration, there was a abdominal sponge in stomach along greater curvature with healed surrounding wall of stomach and small intestine (Figure III a,b). Abdominal sponge was retrieved (Figure IV) and stomach was closed in double layer. Patient had uneventful post-op recovery.

Discussion

The occurrence of gossypiboma is mostly found after emergency procedures of gynecology, surgery and allied fields.[3] Abdominal cavity is the most common site where gossypibomas are reported along with few incidents of retained foreign body in the breast, nervous system, and thorax have also been recorded.[4] Transmural migration is a rare event but is most commonly associated with open cholecystectomy followed by cesarean section and hysterectomy.[4] There are many reasons that lead to retained sponges. These factors include emergency or hurried surgical procedure, disorganization like poor communication, long duration of operation, critical patient, inexperienced staff, poor staff numbers, morbidly obese patient and above all rushed or wrongly declared correct sponge count at the end of the procedure.[7] Gossypibiomas give rise two types of reactions; one of which is exudative that leads to abscess formation and other is aseptic fibrinous that gives rise to foreign body granuloma formation.[5] The presence of retained abdominal sponge may remain asymptomatic for long period of time depending upon its size, site, and the inflammatory response. It usually presents with vague ill health, weight loss due to poor tolerance to oral intake, fever, altered bowel habits, nausea/vomiting, tenesmus, diarrhea, discharging sinus, non-healing wound, sub-acute

intestinal obstruction, malabsorption, and as an abdominal mass which can be an abscess or a pseudo-tumor. Our patient presented with intermittent abdominal pain and distension since open cholecystectomy. Moreover, sponge can erode vessels or the bowel wall by transmural migration and can be extruded through the rectum or migrates into the bladder.[3,6] The most common site of transmural migration is small intestine due to its large surface area and thin wall which shows least resistance. Gossypiboma migrates externally that involves its extrusion through a fistulous tract or internally that involves its transmural migration into the adjacent structures like rectum, vagina, urinary bladder, or intestinal lumen. In our case, the site for transmural migration of sponge was stomach.

On ultrasonography the sponge appears as a well-defined mass with linear or wavy internal echogenic area causing posterior acoustic shadowing. Computed tomography is the investigation of choice, in which sponge appears as a mass with a well-defined capsule giving a spongiform or mottled appearance due to air bubbles. On magnetic resonance imaging, the gossypiboma is shown as a well-defined mass with low intensity peripheral wall on T1 &T2 weighted images and peripheral wall enhancement along with central stripes are seen on gadolinium enhancement on T1 weighted imaging.[6]

Endoscopy is a diagnostic useful tool when the gauze migrates into the lumen of the digestive tube. In such cases, the retrieval of the foreign body with the help of a snare, biopsy forceps or a basket can be tried. For the removal of the retained sponge different approaches can be adopted that include open surgery, laparoscopy or endoscopy depending on patient's condition and facilities available. However, sometimes these patients can be managed conservatively.[3] This patient was initially managed by gastroenterology department where her endoscopy confirmed the diagnosis of gossypiboma in the stomach. Later exploration was done by general surgery department and sponge was retrieved from the stomach with uneventful recovery. The best treatment of gossypiboma is prevention, which is possible by being vigilant especially in sponge counting during the whole procedure. Before closing the wound, a brief look can be given as a routine practice to look for any retained foreign body. Sponges with radio-opaque makers are now routinely used. Similarly, to reduce such negligence radio-frequency chip identification by bar code scanner have been introduced.[8]

Conclusion

Gossypiboma is a serious yet preventable postoperative complication in surgery. Before exhibiting troublesome symptoms, it may remain silent for quite some time. Adopting new approaches and maintaining good count procedures may reduce this. The best management for this avertable complication is prevention.

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